

What is claimed is:

1. A condensing apparatus of a washing and drying machine comprising: a casing for forming an accommodating space therein; a tub installed in the casing; an air duct of which one end is connected to the tub thus
5 for introducing air into the tub; a blower fan for blowing air along the air duct; and a heating means for heating air of the air duct before being introduced into the tub,

wherein the condensing apparatus comprising:

a condensing duct of which one end is connected to a lower region of
10 the tub and another end is upwardly extending;

a condensate water supplying duct connected to a lower region of the condensing duct for supplying condensate water into the condensing duct; and

a condensate water dispersing portion provided with a plurality of dispersion holes formed along a circumferential direction of the condensing duct
15 with a certain interval and arranged at an outlet side of the condensate water supplying duct along a flow direction of the condensate water, for dispersedly dropping condensate water supplied from the condensing water supplying duct.

2. The apparatus of claim 1, wherein the condensing water
20 dispersing portion is a condensate water dispersion member composed of an inner rib of a ring shape for forming an air hole through which air passes at a center thereof; an outer rib arranged concentrically with the inner rib and having a larger diameter than a diameter of the inner rib; a connection bottom portion provided with a plurality of dispersion holes penetratingly formed in order to
25 disperse and drop flowing condensate water, for connecting bottoms of the

inner rib and the outer rib in order to form a condensate water channel through which the condensate water flows between the outer rib and the inner rib.

3. The apparatus of claim 2, wherein the condensing water
5 dispersing member is composed of at least one inner dispersion portion having an air passing interval between the inner rib and connected to the condensate water channel thus for dispersing and dropping condensate water at a center region thereof, and a plurality of connection channel portion for connecting the condensate water channel and the inner dispersion portion.

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4. The apparatus of claim 3, wherein at least one penetration hole for dropping condensate water is formed at a connection bottom of the connection channel portion.

15 5. The apparatus of claim 3, wherein the condensate water supplying duct is connected to the condensate water dispersing member along a tangential direction of the outer rib, and the connection channel portion is formed to approach to the inner dispersion portion along a circumferential direction of the inner rib.

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6. The apparatus of claim 1, wherein the condensing duct has a sectional surface of a circular shape and is downwardly extending from a connection region of the condensate water supplying duct with a predetermined length along an inner circumferential surface.

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7. The apparatus of claim 6, further comprising a connection bellows of which one end is connected to a lower end of the condensing duct and another end is connected to a lower region of the tub.

5 8. The apparatus of claim 7, wherein a connection drain duct connected to a drain duct of the tub for draining the condensate water is formed at the connection bellows.

9. The apparatus of claim 1, further comprising a chamber having
10 more expanded flow section area than the condensing duct, having one side connected to the condensing duct and another side connected to an inlet of the blower fan, and provided with a condensate water supplying opening to which the condensate water supplying duct is coupled at one side thereof.

15 10. The apparatus of claim 9, wherein the condensate water dispersion portion is a condensate water guide formed as a ring shape having a predetermined diameter in order to pass air at a center thereof and provided with a cylindrical portion for guiding condensate water to flow along a circumferential surface of the condensing duct between the chamber
20 accordingly as a bottom of the cylindrical portion is in contact with inside of the chamber.

11. The apparatus of claim 10, wherein a guiding inclination portion slantingly extending outwardly along a radius direction from an upper end of the
25 cylindrical portion and extending along a circumferential direction for guiding

condensate water supplied from the condensate water supplying duct to overflow to a center region where the air passes is formed at an upper portion of the condensate water guide.

5 12. The apparatus of claim 1, wherein the condensing duct is provided with a plurality of protrusion portions protruding towards a center thereof from an inner wall thereof.

 13. The apparatus of claim 12, wherein the protrusion portions are
10 ribs reciprocally extending along a circumferential direction thereof.

 14. The apparatus of claim 12, wherein the protrusion portions are spirally formed along an inner circumference of the condensing duct.

15 15. The apparatus of claim 14, wherein the protrusion portions are inclined towards an upper side of the condensing duct.